LTTngTop: Human-Readable Trace Viewer

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  • lttng-tools, lttng-modules, lttng-ust, babeltrace
• Author of LttngTop
> Content

- LTTng 2.0 features
- LTTngTop overview
- Work in progress
- Demo
- Future
> LTTng 2.x features

- Low-impact kernel and user-space tracer
- TRACE_EVENT support
- Perf PMU counters support
- Kprobes support
> LTTngTop Overview

- Sysadmin-oriented kernel trace viewer
- Gather statistics only from kernel events (no constant /proc hammering)
- Lightweight and console-based (ncurses)
- top-like look and feel
- CPU usage, I/O statistics, Perf PMU counters evolution per-process
LTTngTop Overview

- Replay the recorded trace at the same rate it happened
- Pause and navigate back and forth in the history
- Display the state of the system at any point in time (CPU usage, opened files, bandwidth, process creation/termination, etc)
LTTngTop use-cases

- **Sysadmin**
  - Hard to reproduce bugs (happens sometimes, disappears by itself)
  - Detailed statistics per-process at any point in time (including opened files)

- **Developer**
  - Quickly isolate interesting events from a given trace and then read its text dump?
Live tracing/viewing!

Containers support (LXC):
- vpid/vtid/vppid
- nesting and hierarchy support

Viewer-side filtering:
- selected processes (with/without child processes)
- selected container (with/without nesting)
> LTTngTop Work in Progress

- “Attach” to a live process (graphical and textdump like strace without ptrace overhead)
- CPU hotplug support
- On-the-fly Perf PMU counters activation
- On-the-fly kprobe registration (and hit stats)
> LTTngTop Demo

```plaintext
sinkpad:/home/julien 82x42


CPU(s) 2 (max/cpu : 50.00%)
Threads 367 (+1, 0)
FDs 1651 (+5, -8) 5KB/sec

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Status
Going forward in time
Manually moving forward
Manually moving forward

F2: CPUtop F8: PerfTop F4: IOTop Enter: Details Space: Highlight Q: Quit R: Pref
```

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> LTTngTop Future

- More analysis modules (feedbacks and suggestions welcomed!)
  - Separate disk vs network I/O
  - Disk latency analysis
- Clean integration of the live tracing feature with lttng-tools and babeltrace
> LTTngTop Future

- Separate the analysis modules from the core to allow the use in “desktop widgets”, snmpd, etc.

- Large-scale data center use-cases:
  - Remote traces live analysis (monitoring, trending and debugging)
  - Distributed analysis computation
  - High-level to fine-grained view
> Questions?

LTTngTop available at [http://lttng.org](http://lttng.org)

git clone -b lttngetop-live git://git.dorsal.polymtl.ca/~jdesfossez/lttng-tools

git clone -b lttngetop-live git://git.dorsal.polymtl.ca/~jdesfossez/babeltrace

git clone -b live git://git.lttng.org/lttngtop.git

[EfficiOS](http://www.efficiios.com)